SMD METER

USER'S MANUAL

MODEL: 990C

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1. Introduction

The Meter is a handheld and battery operated very convenient small Tool, that is specially used to measuring SMD(Surface Mounting Device),there are resistor, Capacitor, Diode, Zener and LED, Moreover, the Meter have the continuity checking function And batery power Measurement.

The Meter is designed to meet IEC1010-1 standard and Stipulation of 2-Pollution Grade.

The Meter conform to the European Union's following Requirement:CE regulation 89/336 (EMC Electromagnetic Compatibility).

The entire outer surface of the Meter case has been with thermo plastic elastomer, and the two testing pins has been gold-plated, so that it is reduce pin contact resistance and prevent to get rusty.

This operating instruction covers information on safety and caution,so please read relevant information carefully and observe all the warming and note strictly.

2.Safety Note

The following safety notes should be observed prior to using this Meter and any associated accessory.Although the Meter do not used to measuring to exceed Safety Voltage ,but there are situations where hazardous conditi -on may be present.

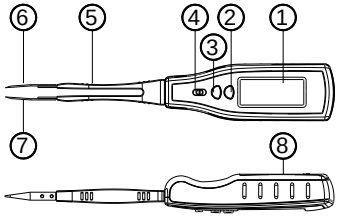
- Inspect the Meter case before using.Do Not use damaged device.
- Inspect the Pin Holder and Pin gold -plated state.
- Do not attempt use the Meter as tweezers to prevent the pin tip from damage.
- Do not used in the environment with explosive gas,vapor,or dust.

Caution

Never use the Meter on alive circuits .

3. Explanation of Control and Indicators

3.1 Product Illustration



① LCD
② "REL"Push Button
③ "FUNC" Push Button Function Select
④ FUNCTION Switch
⑤ Pin Holder
⑥ Test Pin (Gold plated, 'INPUT' Terminal)
⑦ Test Pin (Gold plated, 'COM' Terminal)
⑧ Battery cover

3.2.Push Buttons

[1]"FUNC":it is the function select key that acts trigger.

Use the Push Button as switch of Resistance/Capacitance/Diode/Continuity when the FUNCTION Switch turn on "R/D/C" Range.

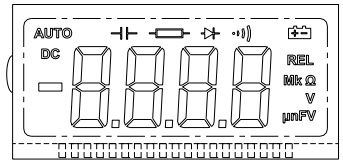
The Meter is have not Power Key. When install the 1.5V(AAA)×2 Battery,The Meter immediately Power ON.

[2]"REL" Key: Press "REL" Button to Enter or exit the relative value measu -ring mode .

Push the key, the present display value will be stored in memory, then the new display value is the difference between input value and stored data.

Note: after auto power-OFF is active, pushing the "REL" key can turn on the Meter again .

3-3.LCD Display

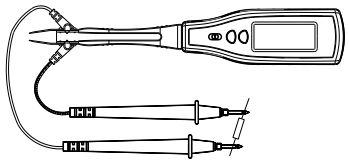


NO	Indicato	Meaning
1	AUTO	Auto Ranging
2	DC	Direct current
3	REL	Relative Testing
4		Diode Checking Mode
5		Continuity Checking Mode
6	nuF	Capacitance Units(nF,uF)
7	MKΩ	Resistance Units(Ω , KΩ ,MΩ)
8	V	Voltage Units
9		Low Battery lndicator

4.Specification

4-1.General Feature

- 6000 count LCD display.
- Auto ranges.
- Over-rang indication display “OL”
- Zener diode Test
- LED Test
- Battery Power Test
- Specialized SMD TEST or TEST DIP Component with leade.



- Low Batteery Indication
- Power Supply: 1.5V(AAA）×2 Battery

5-2.Capacitance Measurement

[1] Set the FUNCTION Switch at “R/D/C”, And press ‘FUNC’ button until symbol of “⊣⊢” is displayed on LCD.

[2] Connect the Test Pins to across the Capacitance under measurement.

[3] You can get reading from LCD.

[4] When test low value of the capacitance, You can press "REL" Button to clear zero, then testing to obtain precist volue of the Capacitance.

Caution

To avoid damage to Capacitors should be discharged before measurement capacitance. When testing small capacitance（≤1uF）, to assur the measurement accuracy, first press "REL", then go on measureing.

When testing large capacitance, it will take longer time before the final indication(it will take about 4~7 seconds).

- Operating temperature &Humidity:0-40℃ (32-104'F) &<80%RH
- Storage temperature & Humidity:-10-50
- perating temperature &Humidity:0-40℃ (32-104℉) &<80%RH
- Safety Class:IEC1010-1,CAT II
- Auto Power OFF:lf the Meter is idle for more than 15 minutes,the Meter automatically tums the power off.
- EMC:According to CE regulation 89/336.
- Dimension(L×W×H) & Weight: 206 X 36 X 25mm,Approx.50 g
- Environmental condition:
  (1) Indoor use;
  (2) Altitude up to 2000meter.
- Accessory:

1. Spare Test Pin: 2PCS
2. Special Test Leads: electric rating 500V 10A

5-3 Diode Check

[1] Set the FUNCTION Switch to “R/D/C”, And press ‘FUNC’ button until symbol of “⊣” is displayed on LCD.

[2] Connect 'INPUT' Test Pin to the anode, and Connect 'COM' Test Pin to the cathode of the diode under testing.

[3] You can get reading from LCD.

A good silicon junction drop between 0.5V-0.8V.

5-4.Continuity Check

[1] Set the FUNCTION Switch at “R/D/C”, And press ‘FUNC’ button until symbol of “•ıı)” is displayed on LCD.

[2] Connect test pins across two points of the circuit under testing.

When the resistance reading is less than 10~60 Ω, the buzzer generates 2KHz beep to indicate continuity.

4-2.Electrical Specification

Function.	Range	Resolu-tion	Accuracy
Resistance	600Ω/6KΩ /60K/600K/ 6MΩ 60MΩ	0.1Ω	±(1.5%rdg+5dgt) “ “ ±(2.5rd%+5dgt)
Capacitance	9.999nF/99.99nF/999.9nF/ 9.999μF/99.99μF/999.9μF /9.999mF/99.99mF	1pF	±(2.5%rdg+5dgt) “ ±(3%rdg+5dgt) ±(4%rdg+10dgt)
Diode Test	Open Voltage:3.0V, Testing Current : 1.5mA		
Continuity Check	When the resistance is less than approx.50Ω,The Buzzer is sounded.		
Zener/LED	Open Voltage : MIN 20V, Testing Current : Appr. 1mA		
BATTERY POWER	Loading Current: Approx. 10mA		±(1.5rd%+5dgt)

5-5. Zener or LED Check

[1] Set the FUNCTION Switch to “⊣◆”

[2] Connect 'INPUT' Test Pin to the anode, and Connect 'COM' Test Pin to the cathode of the ZENER/LED under testing.

[3]The measured value of Zener Voltage show on the LCD, Or show LED working Voltage on the LCD.

5-7 Battery Power Measure

[1] Set the FUNCTION Switch to “⊟”

[2] Connect 'INPUT' Test Pin to the anode, and Connect 'COM' Test Pin to the cathode of the Battery under testing.

[3]The measured value of Battery Voltage at DC10mA load show on the LCD,.

6.Maintenance

6-1.Replacing The Battery

When meter display ⊟ ,the battery must be replace to maintain nomal operaion.

5.Testing Operation

⚠ **Caution**

when measuring SMD device on the PCB, you must be Disconnect power and discharge all high-voltage capacitors.

5-1. Resistance Measurement

[1] Set the FUNCTION Switch to “R/D/C”

[2] Connect the Test Pins to across the resistance under measurement.

[3] You can get reading from LCD.

[4] When test low value of the resistance, You can short two Test Pins, And Press "REL" Button to clear zero, then testing to obtain volue of the resisitance.

[1] Open the battery cover on the bottom case by pushing the battery cover.

[2] Remove old battery and put new two into battery holder.

Note:

Battery type: 1.5V(AAA）×2

If you do not use the meter a long time, pleseRemove the batteries from the meter.

6-2.Cleaning

The meter can be cleaned with soft clean cloth to remove any oil,grease or grim. Do not use liquid solvent or detergent.

Above picture and content just for your reference. Please be subject to the actual products if anything different or updated. Please pardon for not informing in advance.